

Amendments to the Claims:

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Claim 1 (currently amended): A vehicle wheel bearing comprising:

- a) a vehicle-wheel-bearing non-rotatable section;
- b) a vehicle-wheel-bearing rotatable section rotatably attached to the non-rotatable section, wherein at least one of the non-rotatable and rotatable sections includes at least a portion of an inboard bearing seal, wherein at least one of the non-rotatable and rotatable sections includes at least a portion of an outboard bearing seal, and wherein the outboard bearing seal is spaced apart from the inboard bearing seal; and
- e) at least one sensor disposed between the inboard and outboard bearing seals and having an output used for determining at least one component of a force applied to the rotatable section, wherein the determined at-least-one component is an input to a vehicle control system.

a, Claim 2 (currently amended): The vehicle wheel bearing of claim 1, wherein the ~~determined at-least-one component is an input to a vehicle control system~~ is chosen from the group consisting of a vehicle braking system, a vehicle anti-lock braking system, a vehicle stability enhancement system, a vehicle anti-rollover system, a vehicle traction system, and a vehicle acceleration system.

Claim 3 (original): The vehicle wheel bearing of claim 2, wherein the output is used for determining three mutually orthogonal components of the force.

Claim 4 (original): The vehicle wheel bearing of claim 1, wherein the at-least-one sensor includes a stress-based load sensor.

Claim 5 (original): The vehicle wheel bearing of claim 1, wherein the rotatable section includes a first race, wherein the non-rotatable section includes a second race, wherein the first and second races define a raceway, wherein the vehicle wheel bearing also includes rolling elements disposed in the raceway, and wherein the at-least-one sensor senses the passage of the rolling elements around the raceway past the at-least-one sensor.

Claim 6 (original) The vehicle wheel bearing of claim 1, wherein the at-least-one sensor measures the distance between the non-rotatable and rotatable sections.

Claim 7 (original): The vehicle wheel bearing of claim 1, wherein the at-least-one sensor measures temperature.

Claim 8 (original): A vehicle wheel bearing comprising:

- a) a vehicle-wheel-bearing non-rotatable section;
- b) a vehicle-wheel-bearing rotatable section rotatably attached to the non-rotatable section; and
- c) at least one sensor attached to at least one of the non-rotatable and rotatable sections and having an output used for determining at least one component of a force applied to the rotatable section, wherein the rotatable section includes a first race, wherein the non-rotatable section includes a second race, wherein the first and second races define a raceway, wherein the vehicle wheel bearing also includes rolling elements disposed in the raceway, and wherein the at-least-one sensor senses the passage of the rolling elements around the raceway past the at-least-one sensor.

Claim 9 (original): The vehicle wheel bearing of claim 8, wherein the at-least-one sensor is attached to the second race.

Claim 10 (original): The vehicle wheel bearing of claim 8, wherein the at-least-one sensor is permanently attached to the second race.

Claim 11 (original): The vehicle wheel bearing of claim 8, wherein the determined at-least-one component is an input to a vehicle control system.

Claim 12 (original): A vehicle wheel bearing comprising:

- a) a vehicle-wheel-bearing non-rotatable section;

b) a vehicle-wheel-bearing rotatable section rotatably attached to the non-rotatable section; and

c) at least one sensor attached to at least one of the non-rotatable and rotatable sections and having an output used for determining at least one component of a force applied to the rotatable section, wherein the at-least-one sensor measures the distance between the non-rotatable and rotatable sections.

Claim 13 (original): The vehicle wheel bearing of claim 12, wherein the non-rotatable section includes a hub, and wherein the at-least-one sensor is attached to the hub.

Claim 14 (original): The vehicle wheel bearing of claim 13, wherein the at-least-one sensor is permanently attached to the hub.

Claim 15 (original): The vehicle wheel bearing of claim 12, wherein the determined at-least-one component is an input to a vehicle control system.

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Claim 16 (currently amended): A vehicle wheel bearing comprising:

a) a vehicle-wheel-bearing non-rotatable section;  
b) a vehicle-wheel-bearing rotatable section rotatably attached to the non-rotatable section; and  
c) at least one sensor attached to at least one of the non-rotatable and rotatable sections and having an output used for determining at least one component of a force applied to the rotatable section, wherein the at-least-one sensor measures temperature, and wherein the determined at-least-one component is an input to a vehicle control system.

Claim 17 (original): The vehicle wheel bearing of claim 16, wherein the non-rotatable section includes a hub, and wherein the at-least-one sensor is attached to the hub.

Claim 18 (original): The vehicle wheel bearing of claim 17, wherein the at-least-one sensor is permanently attached to the hub.

Claim 19 (currently amended): The vehicle wheel bearing of claim 16, wherein the ~~determined at least one component is an input to a~~ vehicle control system is chosen from the group consisting of a vehicle braking system, a vehicle anti-lock braking system, a vehicle stability enhancement system, a vehicle anti-rollover system, a vehicle traction system, and a vehicle acceleration system.

Claim 20 (original: A method for controlling a vehicle having a wheel bearing including a non-rotatable section, including a rotatable section rotatably attached to the non-rotatable section, and including rolling elements disposed between the non-rotatable and rotatable sections, wherein the method comprises the steps of:

a) attaching at least one sensor to at least one of the non-rotatable and rotatable sections, wherein the at-least-one sensor measures at least one of the passage of the rolling elements, the distance between the non-rotatable and rotatable sections, and a temperature, and wherein the at-least-one sensor has an output;

b) determining at least one component of a force applied to the rotatable section from the output of the attached at-least-one sensor of step a); and

c) controlling the vehicle based at least in part on the determined at-least-one component of step b).

21. The method of claim 20, wherein step b) determines three mutually orthogonal components of the force.